60001440

Mining District File Summary Sheet

| | |
|---|---|
| DISTRICT | Rosebud |
| DIST_NO | 4010 |
| COUNTY<br>If different from written on document | Pershing |
| TITLE<br>If not obvious | Rosebud Drill Hole File - Hole No. 96-357 |
| AUTHOR | M. Brady; Sking; G. Muerhoff; V. Reid; B. Steelman |
| DATE OF DOC(S) | 1996 |
| MULTI_DIST Y / (N?)<br>Additional Dist_Nos: | |
| QUAD_NAME | Sulphur 7.5' |
| P_M_C_NAME<br>(mine, claim & company names) | Rosebud Mine; Rosebud Project; Hecla Mining Co.; Ekland Drilling |
| COMMODITY<br>If not obvious | gold silver |
| NOTES | Drill log; geology; assay; total depth 1370'; handwritten notes; directional survey<br><br>38p. |

Keep docs at about 250 pages if no oversized maps attached (for every 1 oversized page (>11x17) with text reduce the amount of pages by ~25)

SS: DD 5/22/08
Initials Date
DB: [illegible]
Initials Date
SCANNED:
Initials Date

Revised: 1/22/08

Drill log 96-357
Rosebud

60001440 41010

10 ft samples
0-600
rest 5ft

**Hecla** MINING COMPANY

ROSEBUD PROJECT
DRILL LOG

HOLE NUMBER 96-357
PAGE 1 OF 14
DATE 4/5/96
LOGGED BY M. W. Brady
TOTAL DEPTH 1370'

LOCATION
NORTHING 2,204,860.66
EASTING 481,226.44
ELEVATION 5,252.66
AZIMUTH 138.39°
INCLINATION -53°

AREA WEST DOZER HILL
DRILLING CO. EKLUND
RIG TYPE TH100A TRACK-MOUNT RC
HOLE SIZE 5 1/4"
DOWN HOLE SURVEY BY WELNAV

6000/440

| FEET | GRAPHIC | ROCK TYPE | LITHOLOGY | HARDNESS | TEXTURE | ALTERATION: SILICIFICATION 5% | 15% | +25% | MATRIX % | CLASTS % | ARGILLIC 5% | 15% | +25% | TYPE | PROPYLITIC % CHLORITE | CALCITE | POTASSIC % K-SPAR | ALUNITE | OXIDATION 5% | 15% | +25% | VEINING % | TYPE | MINERALIZATION: SULFIDES 5% | 15% | +25% | PY % | CPY % | MAR % | K-SUL % | SULFATE % | BARITE % | METALLURGY: OXIDE | SULF | CARBON | MOISTURE | ANALYTICAL DATA: FROM | TO | W | Au | Ag |
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SEE ASSAY CERTIFICATES

**Hecla** MINING COMPANY

ROSEBUD PROJECT
DRILL LOG

HOLE NUMBER 96-357
PAGE 2 OF 14
DATE
LOGGED BY
TOTAL DEPTH

LOCATION
NORTHING
EASTING
ELEVATION
AZIMUTH
INCLINATION

AREA
DRILLING CO.
RIG TYPE
HOLE SIZE
DOWN HOLE SURVEY BY

| FEET | GRAPHIC | ROCK TYPE | LITHOLOGY | HARDNESS | TEXTURE | ALTERATION: SILICIFICATION 5% | SILICIFICATION 15% | SILICIFICATION +25% | SILICIFICATION MATRIX % | SILICIFICATION QUARTZ % | ARGILLIC 5% | ARGILLIC 15% | ARGILLIC +25% | ARGILLIC TYPE | PROPYLITIC % CHLORITE | PROPYLITIC % CALCITE | POTASSIC % K-SPAR | POTASSIC % ALUNITE | OXIDATION 5% | OXIDATION 15% | OXIDATION +25% | VEINING % | VEINING TYPE | MINERALIZATION: SULFIDES 5% | SULFIDES 15% | SULFIDES +25% | PY % | CPY % | MAR % | K-SUL % | STIBNITE % | BARITE % | METALLURGY: OXIDE | SULF | CARBON | MOISTURE | ANALYTICAL DATA: FROM | TO | W | Au | Ag |
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| 110 | ✓ | | Mylonite qtz veining 100-130? | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| 130 | ✓ | | Ltgreen + tan fine grained tuff w/ Lithics w/min clay + 50 ox/50 unox w/wk py clots poss fault | | | – | | | | | | X | | | ✓ | | | | | | 50 | – | – | | | | <1% | | | | | | | | | | | | | | |
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**Hecla** MINING COMPANY

ROSEBUD PROJECT
DRILL LOG

HOLE NUMBER 96-357
PAGE 3 OF 14
DATE
LOGGED BY
TOTAL DEPTH

LOCATION
NORTHING
EASTING
ELEVATION
AZIMUTH
INCLINATION

AREA
DRILLING CO.
RIG TYPE
HOLE SIZE
DOWN HOLE SURVEY BY

| FEET | GRAPHIC | ROCK TYPE | LITHOLOGY | HARDNESS | TEXTURE | ALTERATION: SILICIFICATION 5% | SILICIFICATION 15% | SILICIFICATION +25% | SILICIFICATION MATRIX % | SILICIFICATION CLASTS % | ARGILLIC 5% | ARGILLIC 15% | ARGILLIC +25% | ARGILLIC TYPE | PROPYLITIC % CHLORITE | PROPYLITIC % CALCITE | POTASSIC % K-SPAR | POTASSIC % ALUNITE | OXIDATION 5% | OXIDATION 15% | OXIDATION +25% | VEINING % | VEINING TYPE | MINERALIZATION: SULFIDES 5% | SULFIDES 15% | SULFIDES +25% | PY % | CPY % | MAR % | K-SUL % | SULFATE % | BARITE % | METALLURGY: OXIDE | SULF | CARBON | MOISTURE | ANALYTICAL DATA: FROM | TO | W | Au | Ag |
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| 230 | | | Lt green-Apple green equigranular tuff w/tr diss py + min. clay wk qtz py veinlets 240-260 w/Lithics | | | – | | | | | | X | | | ✓ | | | | – | | | – | – | | | | | | | | | | | | | | | | | | | |
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| 300 | | | | | | | | | | | | | | | ✓ | | | | | | | | | | | | | | | | | | | | | | | | | | |

**Hecla** MINING COMPANY

ROSEBUD PROJECT
DRILL LOG

HOLE NUMBER 96-357
PAGE 4 OF 14
DATE
LOGGED BY
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EASTING
ELEVATION
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INCLINATION

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| 380 | | | | | | | | | | | | | | | ✓ | | | | | | | | | | | | | | | | | | | | | | | | | | |
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**Hecla** MINING COMPANY

ROSEBUD PROJECT
DRILL LOG

HOLE NUMBER 96-357
PAGE 5 OF 14
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| | | | Lt green + tan equigranular tuff w/ Tr diss py w/ Lithics | | | — | | | | | — | | | | ✓ | | | | — | | | — | | | | | <1% | | | | | | | | | | | | | | |
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| 420 | | | | | | | | | | | | | | | ✓ | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | DK gray + DK red brown (? cobble) frags, + Lt green tuff + diss py w/ Lithics | | | — | | | | | — | | | | ✓ | | | | — | | | — | | | | | | | | | | | | | | | | | | | |
| 430 | | | | | | | | | | | | | | | ✓ | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | Lt green equigranular tuff a.a | | | — | | | | | — | | | | ✓ | | | | — | | | — | | | | | | | | | | | | | | | | | | | | |
| 440 | | | | | | | | | | | | | | | ✓ | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | Lt green tuff w/ Red Brown tuff frags | | | — | | | | | — | | | | ✓ | | | | — | | | — | | | | | | | | | | | | | | | | | | | |
| 450 | | | | | | | | | | | | | | | ✓ | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | Lt green - Apple green tuff w/ Tr diss py w/ Lithics. | | | — | | | | | — | | | | ✓ | | | | — | | | — | | | | | | | | | | | | | | | | | | | |
| 460 | | | | | | | | | | | | | | | ✓ | | | | | | | | | | | | | | | | | | | | | | | | | | |
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HOLE NUMBER 96-357
PAGE 6 OF 14
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| | | | Lt green - Apple green equigranular tuff w/ tr diss py. w/ Lithics | | | – | | | | | – | | | | ✓ | | | | – | | | – | | | | | <1% | | | | | | | | | | | | | | |
| 510 | | | | | | | | | | | | | | | ✓ | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| 530 | | | | | | | | | | | | | | | ✓ | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| 540 | | | | | | | | | | | | | | | ✓ | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| | | | Dk gray + Red brown tuff no sulf → andesite flow | | | – | | | | | – | | | | ✓ | | | | – | | | – | | | | | <1% | | | | | | | | | | | | | | |
| 610 | | | Lt green + Apple green equigranular tuff w/ tr diss. py | | | | | | | | | | | | ✓ | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | w/ Lithics | | | | | | | | | | | | ✓ | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 620 | | | | | | | | | | | | | | | ✓ | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| 630 | | | | | | | | | | | | | | | ✓ | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| | | | blackfoams 700-730 | | | | | | | | | | | | ✓ | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 710 | | | | | | | | | | | | | | | ✓ | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| 730 | | | driller said soft clay zone 1ft wide at 730 also started making water 5-10gpm | | | | | | | | | | | | ✓ | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | See nothing in cuttings w/Lithics | | | | | | | | | | | | ✓ | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 740 | | | | | | | | | | | | | | | ✓ | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| 750 | | | wk qtz veining | | | | | | | | | | | | ✓ | | | | | | | | 1-3 | qtz | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | ✓ | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 760 | | | | | | | | | | | | | | | ✓ | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| 790 | | | | | | | | | | | | | | | ✓ | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| | | | Lt green equigranular tuff w/ tr diss py w/Lithics | | | – | | | | | – | | | | ✓ | | | | – | | | – | | | | | <1% | | | | | | | | | | | | | | |
| 810 | | | | | | | | | | | | | | | ✓ | | | | ✓ | | | | | | | | | | | | | | | | | | | | | | |
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| 820 | | | Lt green tuff a.a w/ 10% black frags + wk qtz veining (?) w/Lithics | | | – | | | | | – | | | | ✓ | | | | – | | | 1 | qtz | | | | | | | | | | | | | | | | | | |
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| 860 | | | | | | | | | | | | | | | ✓ | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| | | | Lt green - Apple green equigranular tuff w/ Tr diss py | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 870 | | | Lt purple tan + Lt pink equigranular tuff w/ Tr diss py w/Lithics | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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**Hecla** MINING COMPANY

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**Hecla** MINING COMPANY

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| PROJECT: ROSEBUD | STATE: Nevada | NORTHING: | TOTAL: Page 1/6 | HOLE#: 96 |
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| LOGD BY: MW Brady | COUNTY: Pershing | EASTING: | BEARING: | DRB 357 |
| UTM#: NK 11-10-06 | SEC. T. N., R. | ELEVATION: | ANGLE: | |

DRILLING NOTES: 100 | Dates: H/O Casing Bits Hole Ø

| DEPTH in FEET | COLOR (WET) | ALUVM (1) | BADGER (2) | CHOCOLT (3) | UBUD (4) | BRADY (5) | MKR POR (6) | LBUD (7) | DOZER (8) | WILDROS (9) | SURGTUF (10) | ASH FLO (11) | LAVA (12) | AUTOBXA (13) | INTRUSV (14) | BASALT (15) | ANDESIT (16) | RHYOLIT (17) | BROKEN (18) | GOUGE (19) | GRAPHIC | MANGAN (17) | HEMAT (18) | LIMON (19) | PYRITE (20) | GRAPHIC | UNALTRD (21) | PROPYLT (22) | ARG (23) | RPL SIL (24) | STKWKS (25) | VEINS (26) | CALCITE (27) | GRAPHIC | COMMENTS: Sample Recovery; Composite Geochem Intervals | SAMPLE No |
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| PROJECT: ROSEBUD | STATE: Nevada | NORTHING: | TOTAL: Page 2/6 | HOLE#: 96 |
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| LOGD BY: MWB | COUNTY: Pershing | EASTING: | BEARING: | DRB 357 |
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DRILLING NOTES: TOP | Dates: H/O Cacme Bits Hole C

| DEPTH in FEET | COLOR (WET) | ALUVM (1) | BADGER (2) | CHOCOLT (3) | BUD (4) | BRADY (5) | MKR POR (6) | BUD (7) | DOZER (8) | WILDROS (9) | SURGTUF (10) | ASHOFLO (11) | LAVA (12) | AUTOBXA (13) | INTRUSV (14) | BASALT (15) | ANDESIT (16) | RHYOLIT (17) | BROKEN (18) | GOUGE (19) | GRAPHIC (20) | OXD'T'N MANGAN (21) | HEMAT (22) | LIMON (23) | PYRITE (24) | GRAPHIC (25) | UNALTRD (26) | PROPYLT (27) | ARG (28) | RPLSIL (29) | STKWKS (30) | VEINS (31) | CALCITE (32) | (33) | GRAPHIC (34) |
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| 370 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 375 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 380 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 385 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 390 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 395 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 400 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 405 | | LTGRN+ TAN | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 410 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 415 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 420 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 425 | | GRY+ RDBRN | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 430 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 435 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 440 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 445 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 450 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 455 | | APPLE GRN | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 460 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 465 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 470 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 475 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 480 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 485 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 490 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 495 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 500 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

COMMENTS

Sample Recovery

Composite Geochem Intervals

| SAMPLE No | COMMENTS |
|---|---|
| 255 | high clay → Rosebud shear? |
| 260 | |
| 265 | |
| 270 | |
| 275 | |
| 280 | |
| 285 | |
| 290 | |
| 295 | |
| 300 | |
| 305 | ANDESITE? |
| 310 | |
| 315 | |
| 320 | |
| 325 | |
| 330 | |
| 335 | |
| 340 | |
| 345 | |
| 350 | |
| 355 | |
| 360 | |
| 365 | |
| 370 | |
| 375 | |
| 380 | |
| 385 | |
| 390 | |
| 395 | |
| 400 | |
| 405 | ANDESITE? |
| 410 | |
| 415 | |
| 420 | |
| 425 | ANDESITE |
| 430 | |
| 435 | |
| 440 | |
| 445 | |
| 450 | |
| 455 | SURGE TUFF |
| 460 | |
| 465 | |
| 470 | |
| 475 | |
| 480 | |
| 485 | |
| 490 | |
| 495 | |
| 500 | |

Filename: [illegible]

| PROJECT: ROSEBUD | STATE: Nevada | NORTHING: | TOTAL: Page 3/6 | HOLE: 96 |
|---|---|---|---|---|
| LOGD BY: MWB | COUNTY: Pershing | EASTING: | BEARING: | PRB: 357 |
| UTM#: NK 11-10-06 | SEC. T. N., R. | ELEVATION: | ANGLE: | |

| DEPTH in FEET | COLOR (WET) | STRATIGRAPHY/LITHOLOGY | STRCT | ALTERATION & MINERALIZATION | COMMENTS |
|---|---|---|---|---|---|
| 510 | | APPLE GRN | | | SURGE TUFF |
| 520 | | | | | |
| 530 | | | | | |
| 540 | | | | | |
| 550 | | | | | |
| 560 | | RD BRN | | 3 | SURGE TUFF |
| 570 | | | | | |
| 580 | | | | | |
| 590 | | | | | |
| 600 | | | | | |
| 610 | | APPLE GRN | | | SURGE TUFF |
| 620 | | | | | |
| 630 | | | | | |
| 640 | | | | | |
| 650 | | | | | |
| 660 | | | | | |
| 670 | | | | | |
| 680 | | | | | |
| 690 | | | | | |
| 700 | | | | | |
| 710 | | LT GRN + APPLE GRN | | | SURGE TUFF w/ J Ka frags |
| 720 | | | | | |
| 730 | | | | ? | DRILLER SAID POSS FLT 725-730 |
| 740 | | | | | |
| 750 | | | | | |

Filename: drbLOG.xls

| | | | |
|---|---|---|---|
| PROJECT: ROSEBUD | STATE: Nevada | NORTHING: | TOTAL: Page 4/6 |
| LOGD BY: MWB | COUNTY: Pershing | EASTING: | BEARING: |
| UTM#: NK 11-10-06 | SEC. T. N., R. | ELEVATION: | ANGLE: |

HOLE#: 96
DRB 357

DRILLING NOTES: TIME | Dates, H2O, Casing, Bits, Hole C

DEPTH in FEET: 760, 770, 780, 790, 800, 810, 820, 830, 840, 850, 860, 870, 880, 890, 900, 910, 920, 930, 940, 950, 960, 970, 980, 990, 1000

| Depth | COLOR (WET) | ALUVM (1) | BADGER (2) | CHOCOLT (3) | UBUD (4) | BRADY (5) | MKRPOR (6) | LBUD (7) | DOZER (8) | WILDROS (9) | SURGTUF (10) | ASHOFLO (11) | LAVA0 (12) | AUTOBXA (13) | INTRUSV (14) | BASALT (12) | ANDESIT (13) | RHYOLIT (14) | BROKEN (15) | GOUGE (16) | GRAPHIC | GANGAN (17) | HEMAT (18) | LIMON (19) | PYRITE (20) | GRAPHIC | UNALTRD (21) | PROPYLT (22) | ARG (22) | RPL SIL (23) | STKWKS (24) | VEINS (25) | CALCITE (26) | (27) | GRAPHIC | COMMENTS | SAMPLE No |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 760 | LTGRN + APPLE GRN | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | SURGE TUFF | 755, 760 |
| 770 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 765, 770, 775 |
| 780 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 780 |
| 790 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 785, 790, 795 |
| 800 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 800 |
| 810 | LTGRN | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | SURGE TUFF w/ J Fragments | 805 |
| 820 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 810, 815, 820 |
| 830 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 825, 830 |
| 840 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 835, 840 |
| 850 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 845, 850 |
| 860 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 855, 860 |
| 870 | LTGRN | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | rhyolite | 865 |
| 880 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 870, 875, 880 |
| 890 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 885, 890 |
| 900 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 895, 900 |
| 910 | LTPINK | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 905, 910 |
| 920 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 915, 920 |
| 930 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 925, 930 |
| 940 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 935, 940 |
| 950 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 945 |
| 960 | WTE-TAN | | | | | | | | | | | | | | | | | | | | | | | | | | | | ? | | | | | | | | 950, 955, 960 |
| 970 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 965, 970, 975 |
| 980 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 960 |
| 990 | | | | | | | | | | | | | | | | | | | | | | | | | | | | 2 | ? | | | | | | | fault? | 985, 990 |
| 1000 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 995, 1000 |

Sample Recovery

Composite Geochem Intervals

| PROJECT: ROSEBUD | STATE: Nevada | NORTHING: | TOTAL | Page 5/6 | HOLE#: 96 |
|---|---|---|---|---|---|
| LOGD BY: MWB | COUNTY: Pershing | EASTING: | BEARING: | | DRB 357 |
| UTM#: NK 11-10-06 | SEC. T. N., R. | ELEVATION: | ANGLE: | | |

| DRILLING NOTES: Depth | Rates | H2O | Casing | Bits | Hole C | COLOR (WET) | STRATIGRAPHY/LITHOLOGY: ALUVM | BADGER | CHOCOLT | UBUD | BRADY | MKR POR | LBUD | DOZER | WILDROS | SURGTUF | ASH FLO | LAVA | AUTOBXA | INTRUSV | BASALT | ANDESIT | RHYOLIT | STRCT: ROKEN | GOUGE | GRAPHIC | ALTERATION & MINERALIZATION: OXD'T'N: MANGAN | HEMAT | LIMON | PYRITE | GRAPHIC | UNALTRD | PROPYLT | ARG | RPL SIL | STKWKS | VEINS | CALCITE | | GRAPHIC | COMMENTS: Sample Recovery / Composite Geochem Interval | SAMPLE No |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | | 17 | 18 | 19 | 20 | | 21 | 22 | 23 | 24 | 25 | 26 | 27 | | | | | | | 5 |
| DEPTH in FEET | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 10 | | | | | | WTE+ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | Rhyolite | 10 |
| | | | | | | | LTGRN | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 15 |
| | 10:20 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 20 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 25 |
| | 10:30 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 30 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 35 |
| | 10:40 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 40 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 45 |
| | 10:50 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 50 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 55 |
| | 10:60 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 60 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 65 |
| | 10:70 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 70 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 75 |
| | 10:80 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 80 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 85 |
| | 10:90 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 90 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 95 |
| | 11:00 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 100 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 105 |
| | 11:10 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 110 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 115 |
| | (1:20 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 120 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 125 |
| | 11:30 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 130 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 135 |
| | 11:40 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 140 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 145 |
| | 11:50 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 150 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 155 |
| | (1:60 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 160 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 165 |
| | 11:70 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 170 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 175 |
| | 11:80 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 180 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 185 |
| | 11:90 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 190 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 195 |
| | 12:00 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | ? | | | | | | | 200 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 205 |
| | 12:10 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 210 |
| | | | | | | | GRY | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 215 |
| | (2:20 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 220 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 225 |
| | 12:30 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 230 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 235 |
| | 12:40 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 240 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 245 |
| | 12:50 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 250 |

?

| PROJECT: ROSEBUD | STATE: Nevada | NORTHING: | TOTAL: Page 6/6 | HOLE#: 96 |
|---|---|---|---|---|
| LOGD BY: MWB | COUNTY: Pershing | EASTING: | BEARING: | DRB 357 |
| UTM#: NK 11-10-06 | SEC. T. N., R. | ELEVATION: | ANGLE: | |

DRILLING NOTES: TIME | Date: H'O Cacme Bits Hole C

| DEPTH in FEET | COLOR (WET) | ALUVM (1) | BADGER (2) | CHOCOLT (3) | UBUD (4) | BRADY (5) | MKR POR (6) | LBUD (7) | DOZER (8) | WILDROS (9) | SURGTUF (10) | ASHOFLO (11) | LAVA00 (12) | AUTOBXA (13) | INTRUSV (14) | BASALT (15) | ANDESIT (16) | RHYOLIT (14) | BROKEN (15) | GOUGE (16) | GRAPHIC | MANGAN (17) | HEMAT (18) | LIMON (19) | PYRITE (20) | GRAPHIC | UNALTRD (21) | PROPYLT (22) | ARG (22) | RPL SIL (23) | STKWKS (24) | VEINS (25) | CALCITE (26) | (27) | GRAPHIC | COMMENTS | SAMPLE No |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | Sample Recovery | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | Composite Geochem Intervals | |
| 260 | GRY | | | | | | | | / | | | | | | | | | / | | | | | | | 1 | | | | | | | 1 | | | | rhyolite w/ wk qtz + py vnlts | 260 |
| 270 | WTE + LTGRN | | | | | | | | / | | | | | | | | | / | | | | | | | | | | | | | | | | | | | 270 |
| 280 | | | | | | | | | / | | | | | | | | | / | | | | | | | | | | | | | | | | | | | 280 |
| 290 | GRY + LT GRN | | | | | | | | / | | | | | | | | | / | | | | | | | | | | | | ? | | | | | | | 290 |
| 300 | LTGRN | | | | | | | | / | | | | | | | | | / | | | | | | | | | | | | | | | | | | | 300 |
| 310 | WTE + LTGRN | | | | | | | | / | | | | | | | | | / | | | | | | | | | | | | | | | | | | | 310 |
| 320 | | | | | | | | | / | | | | | | | | | / | | | | | | | | | | | | | | | | | | | 320 |
| 330 | | | | | | | | | / | | | | | | | | | / | | | | | | | | | | | | | | | | | | | 330 |
| 340 | | | | | | | | | / | | | | | | | | | / | | | | | | | | | | | | | | | | | | | 340 |
| 350 | BLK | | | | | | | | / | | | | | | | | | / | | | | | | | Tr | | | | | | | | 2 | | | BLK argillite w/ wk cal veinlets + disspy | 350 |
| 360 | | | | | | | | | / | | | | | | | | | / | | | | | | | | | | | | | | | | | | | 360 |
| 370 | | | | | | | | | / | | | | | | | | | / | | | | | | | | | | | | | | | | | | | 370 |
| 380 | TD 1370 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | TD 1370 | 380 |
| 390 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 390 |
| 400 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 400 |
| 410 | | | | | | | | | | | | 8' | | | | | | | | | | | | | | | | | | | | | | | | | 410 |
| 420 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 420 |
| 430 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 430 |
| 440 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 440 |
| 450 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 450 |
| 460 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 460 |
| 470 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 470 |
| 480 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 480 |
| 490 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 490 |
| 500 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 500 |

AMERICAN ASSAY LABORATORIES

# ANALYSIS REPORT SP037929

American Assay Laboratories

P.O. BOX 11530
RENO, NV,,USA
Ph.1-702-356-0606, Fax.1-702-356-1413

## HECLA MINING CO.

COPIES TO : CHARLIE MUERHOFF

:

:

:

CLIENT REFERENCE No: 96-357 RECEIVED : 16 APR 1996

No. SAMPLES : 214 REPORTED : 26 APR 1996

MAIN SAMPLE TYPE : DRILL CUTTINGS

NEVADA LEGISLATIVE DISCLAIMER :-
The results of this assay were based solely upon the content of the sample submitted. Any decision to invest should be made only after the potential investment value of the claim or deposit has been determined based on the results of assays of multiple samples of geological materials collected by the prospective investor or by a qualified person selected by him and based on an evaluation of all engineering data which is available concerning any proposed project.

| ANALYSIS | ANALYTICAL METHOD | QUALITY PARAMETER | UNIT | DETECTION |
|---|---|---|---|---|
| Au(OZ) | FA60 | 15% | OPT | 0.001 |
| Au(RZ) | FA60 | 15% | OPT | 0.001 |
| Ag(OZ) | D210 | 10% | OPT | 0.02 |

AMERICAN ASSAY LABORATORIES

# ANALYSIS REPORT SP037929

American Assay Laboratories

CLIENT : HECLA MINING CO.
PROJECT : ROSEBUD
REFERENCE : 96-357

REPORTED : 26 APR 1996

| SAMPLES | Au(OZ) FA60 OPT | Au(RZ) FA60 OPT | Ag(OZ) D210 OPT |
|---|---|---|---|
| 96-357 010-020 | <0.001 | | <0.02 |
| 96-357 020-030 | 0.001 | | 0.02 |
| 96-357 030-040 | 0.001 | | <0.02 |
| 96-357 040-050 | 0.002 | | 0.02 |
| 96-357 050-060 | 0.001 | | 0.03 |
| 96-357 060-070 | 0.002 | | 0.02 |
| 96-357 070-080 | 0.001 | | <0.02 |
| 96-357 080-090 | 0.004 | | 0.03 |
| 96-357 090-100 | 0.004 | | 0.13 |
| 96-357 100-110 | 0.006 | | 0.05 |
| 96-357 110-120 | 0.004 | | 0.06 |
| 96-357 120-130 | 0.011 | 0.008 | 0.08 |
| 96-357 130-140 | 0.002 | | 0.02 |
| 96-357 140-150 | 0.002 | | 0.03 |
| 96-357 150-160 | <0.001 | | 0.02 |
| 96-357 160-170 | 0.001 | | 0.02 |
| 96-357 170-180 | <0.001 | | <0.02 |
| 96-357 180-190 | <0.001 | | <0.02 |
| 96-357 190-200 | <0.001 | | <0.02 |
| 96-357 200-210 | <0.001 | | <0.02 |
| 96-357 210-220 | 0.001 | | <0.02 |
| 96-357 220-230 | <0.001 | | <0.02 |
| 96-357 230-240 | <0.001 | | <0.02 |
| 96-357 240-250 | <0.001 | | <0.02 |
| 96-357 250-260 | 0.003 | 0.003 | <0.02 |

AMERICAN ASSAY LABORATORIES

# ANALYSIS REPORT SP037929

American Assay Laboratories

CLIENT : HECLA MINING CO.
PROJECT : ROSEBUD
REFERENCE : 96-357

REPORTED : 26 APR 1996

| SAMPLES | Au(OZ) FA60 OPT | Au(RZ) FA60 OPT | Ag(OZ) D210 OPT |
|---|---|---|---|
| 96-357 260-270 | <0.001 | | <0.02 |
| 96-357 270-280 | <0.001 | | <0.02 |
| 96-357 280-290 | 0.009 | 0.011 | 0.02 |
| 96-357 290-300 | <0.001 | | 0.02 |
| 96-357 300-310 | 0.001 | | <0.02 |
| 96-357 310-320 | <0.001 | | <0.02 |
| 96-357 320-330 | <0.001 | | <0.02 |
| 96-357 330-340 | <0.001 | | <0.02 |
| 96-357 340-350 | <0.001 | | <0.02 |
| 96-357 350-360 | 0.001 | | 0.02 |
| 96-357 360-370 | 0.002 | | <0.02 |
| 96-357 370-380 | <0.001 | | <0.02 |
| 96-357 380-390 | <0.001 | | <0.02 |
| 96-357 390-400 | <0.001 | | <0.02 |
| 96-357 400-410 | <0.001 | | <0.02 |
| 96-357 410-420 | <0.001 | | <0.02 |
| 96-357 420-430 | <0.001 | | <0.02 |
| 96-357 430-440 | <0.001 | | <0.02 |
| 96-357 440-450 | <0.001 | | <0.02 |
| 96-357 450-460 | <0.001 | | <0.02 |
| 96-357 460-470 | <0.001 | | <0.02 |
| 96-357 470-480 | <0.001 | | <0.02 |
| 96-357 480-490 | <0.001 | | <0.02 |
| 96-357 490-500 | <0.001 | | <0.02 |
| 96-357 500-510 | <0.001 | | <0.02 |

AMERICAN ASSAY LABORATORIES

# ANALYSIS REPORT SP037929

American Assay Laboratories

CLIENT : HECLA MINING CO.
PROJECT : ROSEBUD
REFERENCE : 96-357

REPORTED : 26 APR 1996

| SAMPLES | Au(OZ) FA60 OPT | Au(RZ) FA60 OPT | Ag(OZ) D210 OPT |
|---|---|---|---|
| 96-357 510-520 | <0.001 | | <0.02 |
| 96-357 520-530 | <0.001 | <0.001 | <0.02 |
| 96-357 530-540 | <0.001 | | <0.02 |
| 96-357 540-550 | <0.001 | | <0.02 |
| 96-357 550-560 | <0.001 | | <0.02 |
| 96-357 560-570 | <0.001 | | <0.02 |
| 96-357 570-580 | <0.001 | | <0.02 |
| 96-357 580-590 | <0.001 | | <0.02 |
| 96-357 590-600 | <0.001 | <0.001 | <0.02 |
| 96-357 600-605 | <0.001 | | <0.02 |
| 96-357 605-610 | <0.001 | | <0.02 |
| 96-357 610-615 | <0.001 | | <0.02 |
| 96-357 615-620 | <0.001 | | <0.02 |
| 96-357 620-625 | <0.001 | | <0.02 |
| 96-357 625-630 | <0.001 | | <0.02 |
| 96-357 630-635 | 0.001 | | <0.02 |
| 96-357 635-640 | <0.001 | | <0.02 |
| 96-357 640-645 | <0.001 | | <0.02 |
| 96-357 645-650 | 0.001 | | <0.02 |
| 96-357 650-655 | 0.001 | | 0.02 |
| 96-357 655-660 | <0.001 | | <0.02 |
| 96-357 660-665 | <0.001 | | <0.02 |
| 96-357 665-670 | <0.001 | | <0.02 |
| 96-357 670-675 | 0.001 | | 0.02 |
| 96-357 675-680 | 0.003 | | 0.02 |

AMERICAN ASSAY LABORATORIES

# ANALYSIS REPORT SP037929

American Assay Laboratories

CLIENT : HECLA MINING CO.
PROJECT : ROSEBUD
REFERENCE : 96-357

REPORTED : 26 APR 1996

| SAMPLES | Au(OZ) FA60 OPT | Au(RZ) FA60 OPT | Ag(OZ) D210 OPT |
|---|---|---|---|
| 96-357 680-685 | 0.001 | | <0.02 |
| 96-357 685-690 | <0.001 | | <0.02 |
| 96-357 690-695 | <0.001 | | <0.02 |
| 96-357 695-700 | <0.001 | <0.001 | <0.02 |
| 96-357 700-705 | <0.001 | | <0.02 |
| 96-357 705-710 | <0.001 | | <0.02 |
| 96-357 710-715 | <0.001 | | <0.02 |
| 96-357 715-720 | <0.001 | | <0.02 |
| 96-357 720-725 | <0.001 | | <0.02 |
| 96-357 725-730 | 0.001 | | <0.02 |
| 96-357 730-735 | 0.003 | | <0.02 |
| 96-357 735-740 | <0.001 | | <0.02 |
| 96-357 740-745 | <0.001 | | 0.03 |
| 96-357 745-750 | <0.001 | | <0.02 |
| 96-357 750-755 | <0.001 | | <0.02 |
| 96-357 755-760 | <0.001 | | <0.02 |
| 96-357 760-765 | <0.001 | <0.001 | <0.02 |
| 96-357 765-770 | <0.001 | | <0.02 |
| 96-357 770-775 | <0.001 | | <0.02 |
| 96-357 775-780 | <0.001 | | <0.02 |
| 96-357 780-785 | <0.001 | | <0.02 |
| 96-357 785-790 | <0.001 | | <0.02 |
| 96-357 790-795 | <0.001 | | <0.02 |
| 96-357 795-800 | <0.001 | | <0.02 |
| 96-357 800-805 | <0.001 | | <0.02 |

AMERICAN ASSAY LABORATORIES

# ANALYSIS REPORT SP037929

American Assay Laboratories

CLIENT : HECLA MINING CO.
PROJECT : ROSEBUD
REFERENCE : 96-357

REPORTED : 26 APR 1996

| SAMPLES | Au(OZ) FA60 OPT | Au(RZ) FA60 OPT | Ag(OZ) D210 OPT |
|---|---|---|---|
| 96-357 805-810 | <0.001 | | <0.02 |
| 96-357 810-815 | <0.001 | | <0.02 |
| 96-357 815-820 | <0.001 | | <0.02 |
| 96-357 820-825 | <0.001 | | <0.02 |
| 96-357 825-830 | <0.001 | | <0.02 |
| 96-357 830-835 | <0.001 | | <0.02 |
| 96-357 835-840 | <0.001 | | <0.02 |
| 96-357 840-845 | <0.001 | | <0.02 |
| 96-357 845-850 | <0.001 | | <0.02 |
| 96-357 850-855 | <0.001 | | <0.02 |
| 96-357 855-860 | <0.001 | | <0.02 |
| 96-357 860-865 | <0.001 | | <0.02 |
| 96-357 865-870 | <0.001 | | <0.02 |
| 96-357 870-875 | <0.001 | | <0.02 |
| 96-357 875-880 | <0.001 | | <0.02 |
| 96-357 880-885 | <0.001 | | <0.02 |
| 96-357 885-890 | <0.001 | | <0.02 |
| 96-357 890-895 | <0.001 | | <0.02 |
| 96-357 895-900 | <0.001 | | <0.02 |
| 96-357 900-905 | <0.001 | | <0.02 |
| 96-357 905-910 | <0.001 | | <0.02 |
| 96-357 910-915 | <0.001 | | <0.02 |
| 96-357 915-920 | <0.001 | | <0.02 |
| 96-357 920-925 | <0.001 | | <0.02 |
| 96-357 925-930 | <0.001 | | <0.02 |

AMERICAN ASSAY LABORATORIES

# ANALYSIS REPORT SP037929

American Assay Laboratories

CLIENT : HECLA MINING CO.
PROJECT : ROSEBUD
REFERENCE : 96-357

REPORTED : 26 APR 1996

| SAMPLES | Au(OZ) FA60 OPT | Au(RZ) FA60 OPT | Ag(OZ) D210 OPT |
|---|---|---|---|
| 96-357 930-935 | <0.001 | | <0.02 |
| 96-357 935-940 | <0.001 | | <0.02 |
| 96-357 940-945 | <0.001 | | <0.02 |
| 96-357 945-950 | <0.001 | | <0.02 |
| 96-357 950-955 | <0.001 | | <0.02 |
| 96-357 955-960 | <0.001 | | <0.02 |
| 96-357 960-965 | <0.001 | | <0.02 |
| 96-357 965-970 | 0.001 | | <0.02 |
| 96-357 970-975 | 0.002 | | <0.02 |
| 96-357 975-980 | 0.001 | | <0.02 |
| 96-357 980-985 | <0.001 | | <0.02 |
| 96-357 985-990 | <0.001 | | 0.03 |
| 96-357 990-995 | <0.001 | | <0.02 |
| 96-357 995-1000 | <0.001 | | <0.02 |
| 96-357 1000-1005 | <0.001 | | 0.02 |
| 96-357 1005-1010 | <0.001 | | <0.02 |
| 96-357 1010-1015 | 0.002 | 0.003 | 0.03 |
| 96-357 1015-1020 | 0.001 | | <0.02 |
| 96-357 1020-1025 | <0.001 | | 0.02 |
| 96-357 1025-1030 | <0.001 | | <0.02 |
| 96-357 1030-1035 | <0.001 | | 0.02 |
| 96-357 1035-1040 | 0.003 | | 0.03 |
| 96-357 1040-1045 | 0.001 | | <0.02 |
| 96-357 1045-1050 | <0.001 | | <0.02 |
| 96-357 1050-1055 | <0.001 | | <0.02 |

AMERICAN ASSAY LABORATORIES

# ANALYSIS REPORT SP037929

American Assay Laboratories

CLIENT : HECLA MINING CO.
PROJECT : ROSEBUD
REFERENCE : 96-357

REPORTED : 26 APR 1996

| SAMPLES | Au(OZ) FA60 OPT | Au(RZ) FA60 OPT | Ag(OZ) D210 OPT |
|---|---|---|---|
| 96-357 1055-1060 | <0.001 | | 0.02 |
| 96-357 1060-1065 | 0.002 | | 0.03 |
| 96-357 1065-1070 | <0.001 | | <0.02 |
| 96-357 1070-1075 | <0.001 | | <0.02 |
| 96-357 1075-1080 | <0.001 | | <0.02 |
| 96-357 1080-1085 | 0.002 | | 0.02 |
| 96-357 1085-1090 | 0.001 | | 0.03 |
| 96-357 1090-1095 | <0.001 | | <0.02 |
| 96-357 1095-1100 | <0.001 | | <0.02 |
| 96-357 1100-1105 | <0.001 | | <0.02 |
| 96-357 1105-1110 | <0.001 | | <0.02 |
| 96-357 1110-1115 | <0.001 | | <0.02 |
| 96-357 1115-1120 | <0.001 | | <0.02 |
| 96-357 1120-1125 | 0.002 | | 0.03 |
| 96-357 1125-1130 | 0.001 | | 0.02 |
| 96-357 1130-1135 | <0.001 | <0.001 | <0.02 |
| 96-357 1135-1140 | <0.001 | | <0.02 |
| 96-357 1140-1145 | <0.001 | | <0.02 |
| 96-357 1145-1150 | <0.001 | | 0.02 |
| 96-357 1150-1155 | <0.001 | | <0.02 |
| 96-357 1155-1160 | <0.001 | | <0.02 |
| 96-357 1160-1165 | <0.001 | | <0.02 |
| 96-357 1165-1170 | <0.001 | | <0.02 |
| 96-357 1170-1175 | <0.001 | | <0.02 |
| 96-357 1175-1180 | <0.001 | | 0.02 |

AMERICAN ASSAY LABORATORIES

# ANALYSIS REPORT SP037929

American Assay Laboratories

CLIENT : HECLA MINING CO.
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REFERENCE : 96-357

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| SAMPLES | Au(OZ) FA60 OPT | Au(RZ) FA60 OPT | Ag(OZ) D210 OPT |
|---|---|---|---|
| 96-357 1180-1185 | <0.001 | | <0.02 |
| 96-357 1185-1190 | <0.001 | | <0.02 |
| 96-357 1190-1195 | <0.001 | | <0.02 |
| 96-357 1195-1200 | 0.001 | | <0.02 |
| 96-357 1200-1205 | <0.001 | | <0.02 |
| 96-357 1205-1210 | <0.001 | | 0.02 |
| 96-357 1210-1215 | <0.001 | | <0.02 |
| 96-357 1215-1220 | <0.001 | | <0.02 |
| 96-357 1220-1225 | <0.001 | | <0.02 |
| 96-357 1225-1230 | <0.001 | | <0.02 |
| 96-357 1230-1235 | <0.001 | | <0.02 |
| 96-357 1235-1240 | <0.001 | | <0.02 |
| 96-357 1240-1245 | <0.001 | | <0.02 |
| 96-357 1245-1250 | <0.001 | | <0.02 |
| 96-357 1250-1255 | <0.001 | | <0.02 |
| 96-357 1255-1260 | <0.001 | | <0.02 |
| 96-357 1260-1265 | <0.001 | | <0.02 |
| 96-357 1265-1270 | <0.001 | | <0.02 |
| 96-357 1270-1275 | <0.001 | | <0.02 |
| 96-357 1275-1280 | <0.001 | | <0.02 |
| 96-357 1280-1285 | <0.001 | | <0.02 |
| 96-357 1285-1290 | 0.001 | | 0.02 |
| 96-357 1290-1295 | 0.001 | | 0.02 |
| 96-357 1295-1300 | 0.001 | | 0.02 |
| 96-357 1300-1305 | <0.001 | | 0.02 |

AMERICAN ASSAY LABORATORIES

# ANALYSIS REPORT SP037929

American Assay Laboratories

CLIENT : HECLA MINING CO.
PROJECT : ROSEBUD
REFERENCE : 96-357

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| SAMPLES | Au(OZ) FA60 OPT | Au(RZ) FA60 OPT | Ag(OZ) D210 OPT |
|---|---|---|---|
| 96-357 1305-1310 | <0.001 | | 0.02 |
| 96-357 1310-1315 | 0.002 | | 0.10 |
| 96-357 1315-1320 | 0.001 | | 0.28 |
| 96-357 1320-1325 | 0.001 | | 0.02 |
| 96-357 1325-1330 | 0.003 | | 0.02 |
| 96-357 1330-1335 | <0.001 | | <0.02 |
| 96-357 1335-1340 | <0.001 | | 0.02 |
| 96-357 1340-1345 | <0.001 | | 0.02 |
| 96-357 1345-1350 | <0.001 | | 0.02 |
| 96-357 1350-1355 | <0.001 | | 0.03 |
| 96-357 1355-1360 | <0.001 | | <0.02 |
| 96-357 1360-1365 | <0.001 | | <0.02 |
| 96-357 1365-1370 | <0.001 | | <0.02 |
| 96-357 1200-0-10 | <0.001 | | <0.02 |

WELNAV
ELKO, NEVADA

GYROSCOPIC DIRECTIONAL SURVEY
BY MINIMUM CURVATURE

FOR

**********
* **HECLA MINING COMPANY** *
**********

'OB NUMBER: 29-0588-311

'ELL NAME: 96-357

.OCATION: ROSEBUD

SURVEY DATE: 04/09/96

SURVEY ENGINEER: VERN REID

YRO REFERENCE BEARING: 151.00

IE-ON COORDINATES AT: 0 M.D.
AKEN FROM: COLLAR

********** DEPTH MEASURED IN FEET ********

COMMENTS: ****** EKLUND ******
** BRIAN STEELMAN **

PROJECTED F/1000' T/1400'.

**********
*** THIS DIRECTIONAL SURVEY REPORT IS ****
** CORRECT TO THE BEST OF MY KNOWLEDGE ***
* AND IS SUPPORTED BY ACTUAL FIELD DATA! *
**
**
** **********
** COMPANY REPRESENTATIVE
**********
**********

WELNAV
ELKO, NEVADA

JOB NUMBER: 29-0588-311

WELL NAME: 96-357

INRUN SURVEY
BY MINIMUM CURVATURE

| MEAS. DEPTH | VERT. DEPTH | VERT. SECT. | L/R CLOS. | INCL | BEARING AZIMUTH | COORDINATES LATITUDE | COORDINATES DEPARTURE | D-LEG /100 | D-LEG /CL | STATION DISP. | DISPLACEMENT DIRECTION |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 0.00 | 0.00 | 0.000 | -53.12 | 138.39 | 0.00 N | 0.00 E | 0.00 | | 0.00 | AT 000.00 |
| 50.0 | 40.57 | 29.12 | -2.429 | -55.33 | 141.23 | 22.31 S | 18.87 E | 5.53 | 2.76 | 29.22 | AT 139.77 |
| 100.0 | 81.82 | 57.32 | -4.009 | -55.87 | 141.44 | 44.37 S | 36.52 E | 1.11 | 0.55 | 57.46 | AT 140.54 |
| 150.0 | 123.33 | 85.17 | -5.407 | -56.36 | 141.89 | 66.23 S | 53.81 E | 1.10 | 0.55 | 85.34 | AT 140.91 |
| 200.0 | 165.15 | 112.53 | -6.767 | -57.17 | 141.50 | 87.74 S | 70.80 E | 1.67 | 0.84 | 112.74 | AT 141.10 |
| 250.0 | 207.34 | 139.33 | -8.254 | -57.91 | 141.22 | 108.70 S | 87.55 E | 1.51 | 0.76 | 139.57 | AT 141.15 |
| 300.0 | 249.90 | 165.52 | -9.869 | -58.79 | 140.80 | 129.09 S | 104.06 E | 1.82 | 0.91 | 165.81 | AT 141.13 |
| 350.0 | 292.93 | 190.92 | -11.563 | -59.98 | 140.65 | 148.80 S | 120.18 E | 2.38 | 1.19 | 191.27 | AT 141.07 |
| 400.0 | 336.50 | 215.38 | -13.280 | -61.28 | 140.39 | 167.73 S | 135.77 E | 2.61 | 1.31 | 215.79 | AT 141.01 |
| 450.0 | 380.50 | 239.08 | -14.844 | -62.00 | 141.14 | 186.13 S | 150.79 E | 1.61 | 0.80 | 239.54 | AT 140.99 |
| 500.0 | 424.97 | 261.90 | -16.030 | -63.61 | 142.01 | 204.02 S | 164.99 E | 3.32 | 1.66 | 262.39 | AT 141.04 |
| 550.0 | 469.97 | 283.68 | -16.788 | -64.71 | 143.11 | 221.32 S | 178.25 E | 2.40 | 1.20 | 284.18 | AT 141.15 |
| 600.0 | 515.32 | 304.74 | -17.161 | -65.46 | 143.96 | 238.26 S | 190.77 E | 1.66 | 0.83 | 305.22 | AT 141.32 |
| 650.0 | 560.94 | 325.21 | -17.191 | -66.19 | 144.97 | 254.92 S | 202.67 E | 1.68 | 0.84 | 325.67 | AT 141.51 |
| 700.0 | 606.84 | 345.04 | -16.948 | -67.08 | 145.53 | 271.21 S | 213.97 E | 1.83 | 0.92 | 345.46 | AT 141.73 |
| 750.0 | 653.03 | 364.18 | -16.431 | -67.90 | 146.66 | 287.10 S | 224.65 E | 1.86 | 0.93 | 364.55 | AT 141.96 |
| 800.0 | 699.43 | 382.78 | -15.726 | -68.39 | 146.76 | 302.66 S | 234.87 E | 0.98 | 0.49 | 383.10 | AT 142.19 |
| 850.0 | 746.05 | 400.84 | -14.786 | -69.19 | 148.31 | 317.91 S | 244.58 E | 1.96 | 0.98 | 401.11 | AT 142.43 |
| 900.0 | 792.84 | 418.40 | -13.466 | -69.57 | 149.38 | 332.98 S | 253.69 E | 1.07 | 0.53 | 418.61 | AT 142.70 |
| 950.0 | 839.78 | 435.58 | -12.102 | -70.10 | 148.77 | 347.77 S | 262.55 E | 1.14 | 0.57 | 435.75 | AT 142.95 |
| 1000.0 | 886.88 | 452.30 | -10.804 | -70.71 | 149.19 | 362.14 S | 271.19 E | 1.25 | 0.63 | 452.43 | AT 143.17 |
| 1050.0 | 934.07 | 468.77 | -9.449 | -70.68 | 149.29 | 376.34 S | 279.65 E | 0.09 | 0.05 | 468.87 | AT 143.39 |
| 1100.0 | 981.26 | 485.25 | -8.106 | -70.69 | 149.10 | 390.55 S | 288.12 E | 0.13 | 0.07 | 485.32 | AT 143.58 |
| 1150.0 | 1028.44 | 501.73 | -6.774 | -70.69 | 149.22 | 404.74 S | 296.59 E | 0.08 | 0.04 | 501.78 | AT 143.77 |
| 1200.0 | 1075.63 | 518.21 | -5.436 | -70.69 | 149.14 | 418.94 S | 305.06 E | 0.05 | 0.03 | 518.24 | AT 143.94 |
| 1250.0 | 1122.82 | 534.68 | -4.105 | -70.73 | 149.18 | 433.12 S | 313.53 E | 0.08 | 0.04 | 534.69 | AT 144.10 |
| 1300.0 | 1170.02 | 551.14 | -2.753 | -70.69 | 149.29 | 447.32 S | 321.98 E | 0.11 | 0.05 | 551.15 | AT 144.25 |
| 1350.0 | 1217.20 | 567.62 | -1.365 | -70.68 | 149.42 | 461.55 S | 330.41 E | 0.08 | 0.04 | 567.62 | AT 144.40 |
| 1400.0 | 1264.39 | 584.10 | 0.014 | -70.68 | 149.23 | 475.77 S | 338.85 E | 0.12 | 0.06 | 584.10 | AT 144.54 |

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*************************************************************
*                          ********                         *
*      THE HORIZONTAL DISPLACEMENT AT THE DEPTH OF          *
*                          ********                         *
*  1400.0 FEET EQUALS    584.10    FEET AT   144.54         *
*                          ********                         *
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180
145
35

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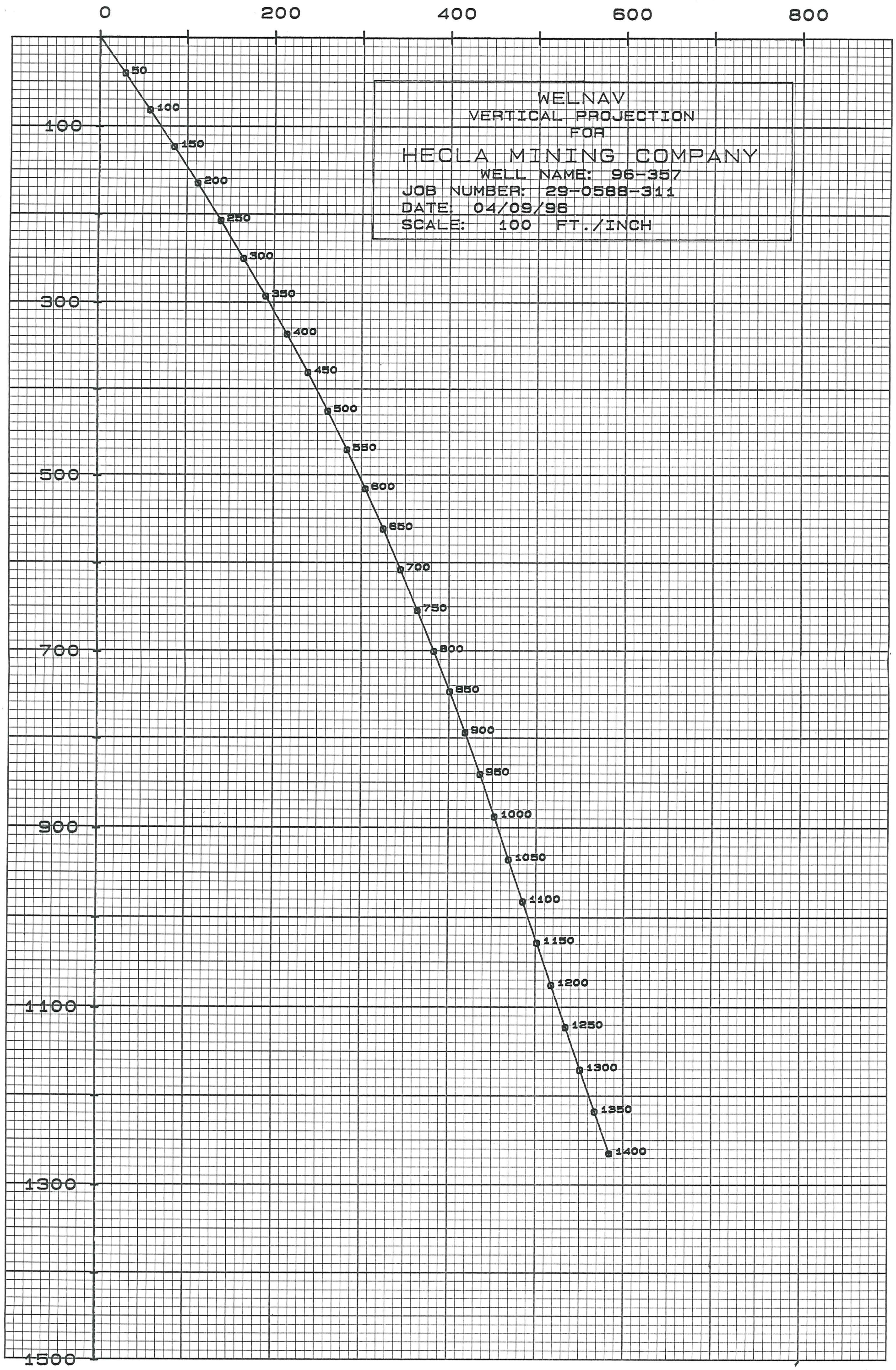

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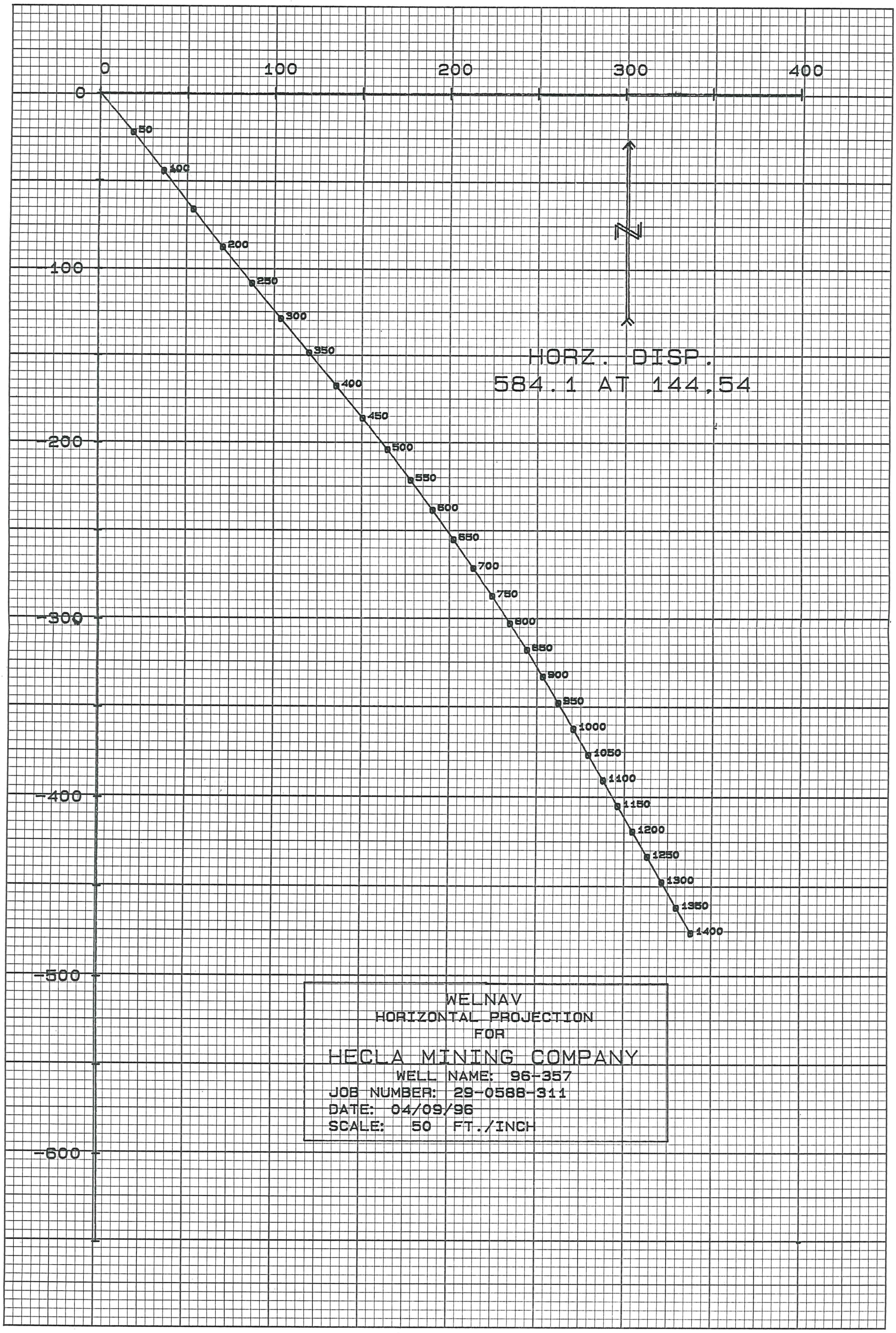

WELNAV
ELKO, NEVADA

GYROSCOPIC DIRECTIONAL SURVEY
BY MINIMUM CURVATURE

FOR

**********
* HECLA MINING COMPANY *
**********

JOB NUMBER: 29-0588-311

WELL NAME: 96-357

LOCATION: ROSEBUD

SURVEY DATE: 04/09/96

SURVEY ENGINEER: VERN REID

GYRO REFERENCE BEARING: 151.00

TIE-ON COORDINATES AT: 0 M.D.
TAKEN FROM: COLLAR

********** **********
****** DEPTH MEASURED IN FEET ******* **********
********** *** THIS DIRECTIONAL SURVEY REPORT IS ****
** CORRECT TO THE BEST OF MY KNOWLEDGE ***
COMMENTS: ****** EKLUND ****** * AND IS SUPPORTED BY ACTUAL FIELD DATA! *
** BRIAN STEELMAN ** ** **
** **
PROJECTED F/1000' T/1400'. ** ********** **
** COMPANY REPRESENTATIVE **
**********
**********

WELNAV
ELKO, NEVADA

JOB NUMBER: 29-0588-311

WELL NAME: 96-357

INRUN SURVEY
BY MINIMUM CURVATURE

| MEAS. DEPTH | VERT. DEPTH | VERT. SECT. | L/R CLOS. | INCL | BEARING AZIMUTH | COORDINATES LATITUDE | COORDINATES DEPARTURE | D-LEG /100 | D-LEG /CL | STATION DISP. | DISPLACEMENT DIRECTION |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 0.00 | 0.00 | 0.000 | -53.12 | 138.39 | 0.00 N | 0.00 E | 0.00 | | 0.00 | AT 000.00 |
| 50.0 | 40.57 | 29.12 | -2.429 | -55.33 | 141.23 | 22.31 S | 18.87 E | 5.53 | 2.76 | 29.22 | AT 139.77 |
| 100.0 | 81.82 | 57.32 | -4.009 | -55.87 | 141.44 | 44.37 S | 36.52 E | 1.11 | 0.55 | 57.46 | AT 140.54 |
| 150.0 | 123.33 | 85.17 | -5.407 | -56.36 | 141.89 | 66.23 S | 53.81 E | 1.10 | 0.55 | 85.34 | AT 140.91 |
| 200.0 | 165.15 | 112.53 | -6.767 | -57.17 | 141.50 | 87.74 S | 70.80 E | 1.67 | 0.84 | 112.74 | AT 141.10 |
| 250.0 | 207.34 | 139.33 | -8.254 | -57.91 | 141.22 | 108.70 S | 87.55 E | 1.51 | 0.76 | 139.57 | AT 141.15 |
| 300.0 | 249.90 | 165.52 | -9.869 | -58.79 | 140.80 | 129.09 S | 104.06 E | 1.82 | 0.91 | 165.81 | AT 141.13 |
| 350.0 | 292.93 | 190.92 | -11.563 | -59.98 | 140.65 | 148.80 S | 120.18 E | 2.38 | 1.19 | 191.27 | AT 141.07 |
| 400.0 | 336.50 | 215.38 | -13.280 | -61.28 | 140.39 | 167.73 S | 135.77 E | 2.61 | 1.31 | 215.79 | AT 141.01 |
| 450.0 | 380.50 | 239.08 | -14.844 | -62.00 | 141.14 | 186.13 S | 150.79 E | 1.61 | 0.80 | 239.54 | AT 140.99 |
| 500.0 | 424.97 | 261.90 | -16.030 | -63.61 | 142.01 | 204.02 S | 164.99 E | 3.32 | 1.66 | 262.39 | AT 141.04 |
| 550.0 | 469.97 | 283.68 | -16.788 | -64.71 | 143.11 | 221.32 S | 178.25 E | 2.40 | 1.20 | 284.18 | AT 141.15 |
| 600.0 | 515.32 | 304.74 | -17.161 | -65.46 | 143.96 | 238.26 S | 190.77 E | 1.66 | 0.83 | 305.22 | AT 141.32 |
| 650.0 | 560.94 | 325.21 | -17.191 | -66.19 | 144.97 | 254.92 S | 202.67 E | 1.68 | 0.84 | 325.67 | AT 141.51 |
| 700.0 | 606.84 | 345.04 | -16.948 | -67.08 | 145.53 | 271.21 S | 213.97 E | 1.83 | 0.92 | 345.46 | AT 141.73 |
| 750.0 | 653.03 | 364.18 | -16.431 | -67.90 | 146.66 | 287.10 S | 224.65 E | 1.86 | 0.93 | 364.55 | AT 141.96 |
| 800.0 | 699.43 | 382.78 | -15.726 | -68.39 | 146.76 | 302.66 S | 234.87 E | 0.98 | 0.49 | 383.10 | AT 142.19 |
| 850.0 | 746.05 | 400.84 | -14.786 | -69.19 | 148.31 | 317.91 S | 244.58 E | 1.96 | 0.98 | 401.11 | AT 142.43 |
| 900.0 | 792.84 | 418.40 | -13.466 | -69.57 | 149.38 | 332.98 S | 253.69 E | 1.07 | 0.53 | 418.61 | AT 142.70 |
| 950.0 | 839.78 | 435.58 | -12.102 | -70.10 | 148.77 | 347.77 S | 262.55 E | 1.14 | 0.57 | 435.75 | AT 142.95 |
| 1000.0 | 886.88 | 452.30 | -10.804 | -70.71 | 149.19 | 362.14 S | 271.19 E | 1.25 | 0.63 | 452.43 | AT 143.17 |
| 1050.0 | 934.07 | 468.77 | -9.449 | -70.68 | 149.29 | 376.34 S | 279.65 E | 0.09 | 0.05 | 468.87 | AT 143.39 |
| 1100.0 | 981.26 | 485.25 | -8.106 | -70.69 | 149.10 | 390.55 S | 288.12 E | 0.13 | 0.07 | 485.32 | AT 143.58 |
| 1150.0 | 1028.44 | 501.73 | -6.774 | -70.69 | 149.22 | 404.74 S | 296.59 E | 0.08 | 0.04 | 501.78 | AT 143.77 |
| 1200.0 | 1075.63 | 518.21 | -5.436 | -70.69 | 149.14 | 418.94 S | 305.06 E | 0.05 | 0.03 | 518.24 | AT 143.94 |
| 1250.0 | 1122.82 | 534.68 | -4.105 | -70.73 | 149.18 | 433.12 S | 313.53 E | 0.08 | 0.04 | 534.69 | AT 144.10 |
| 1300.0 | 1170.02 | 551.14 | -2.753 | -70.69 | 149.29 | 447.32 S | 321.98 E | 0.11 | 0.05 | 551.15 | AT 144.25 |
| 1350.0 | 1217.20 | 567.62 | -1.365 | -70.68 | 149.42 | 461.55 S | 330.41 E | 0.08 | 0.04 | 567.62 | AT 144.40 |
| 1400.0 | 1264.39 | 584.10 | 0.014 | -70.68 | 149.23 | 475.77 S | 338.85 E | 0.12 | 0.06 | 584.10 | AT 144.54 |

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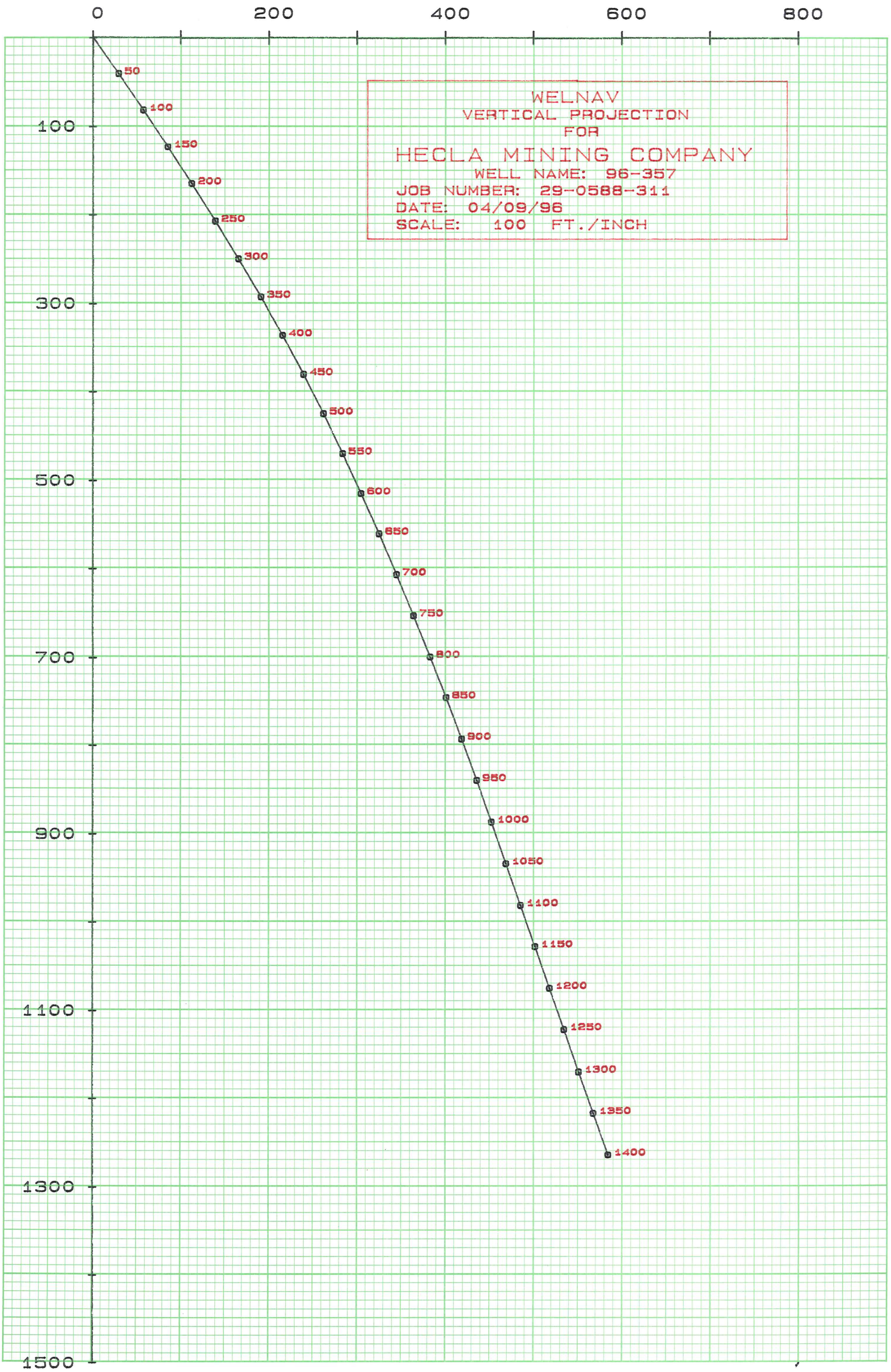
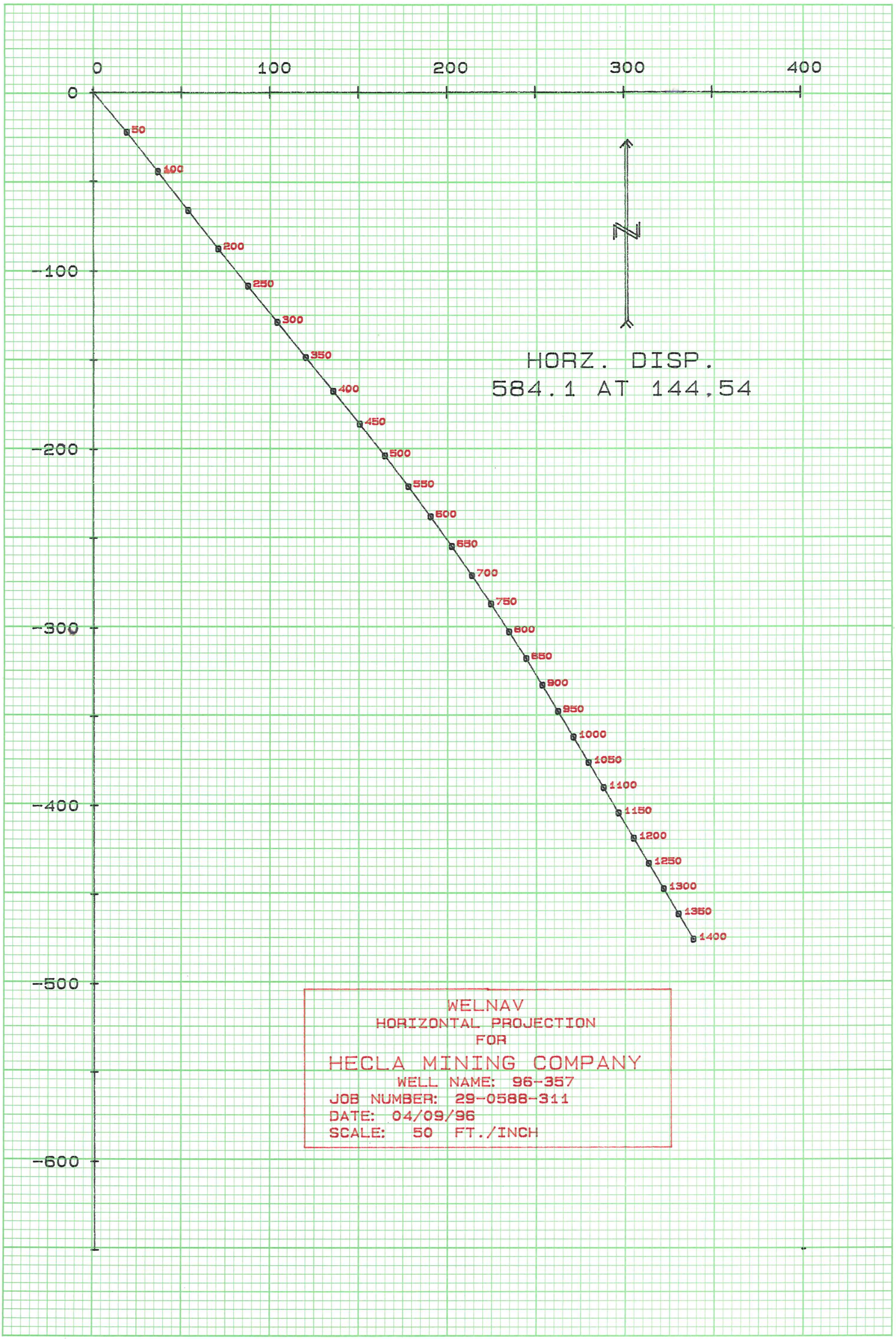
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